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MCGLEW & TUTTLE, PC
P.O. BOX 9227
SCARBOROUGH STATION
SCARBOROUGH, NY 10510-9227

EXAMINER	
VANATTA, AMY B	

ART UNIT	PAPER NUMBER
3765	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/553,115	VEZIL, ALFIO	
	Examiner	Art Unit	
	Amy B. Vanatta	3765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) *18-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 October 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *101305*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I (claims 1-17) in the reply filed on 7/24/08 is acknowledged. The traversal is on the ground(s) that the method and device require the special technical features of the product as claimed in the product claims, and that a single search can be performed to consider all inventions. This is not found persuasive because the special technical feature of Group I is subjecting the yarn to abrasive surface processing while it is undergoing stretching, and this special technical feature is not present in Group II. Neither *abrasive* processing nor stretching are required in Group II. Also, a single search cannot be performed to consider all inventions, since the product claims are classified in a different class (Class 428) and the search for the product claims differs from that required for the method and apparatus claims.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 5 and 9-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 5, the recitation "preferably from 4% to 5%" renders the claim indefinite because it is unclear whether the limitation(s) following "preferably" are part of the claimed invention. See MPEP § 2173.05(d).

In claim 9, line 3, it unclear to what structure "it" refers.

In claim 9, lines 4-5, "said at least one mechanical processing element" lacks proper antecedent basis since "element" was not previously recited.

In claim 9, lines 5-6, the recitation of the portion of the path "in which the yarn is subjected to stretching" renders the claim indefinite, since "subjecting" the yarn to stretching was not previously set forth, but rather merely stretching elements which "impart a stretch" to the yarn were previously recited.

In claim 12, line 2, it unclear to what structure "it" refers.

In claim 12, line 5, it unclear what is meant by "being position between".

In claim 13, line 3, "the residues" lacks proper antecedent basis.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 5-7, 9, 12, and 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Barber et al (US 3,594,881).

Barber et al disclose a method and apparatus for treating a yarn by abrading the yarn. The method includes subjecting the yarn (1) to mechanical abrasive surface processing via "striating or abraiding medium 4" (col. 2, lines 3-4). The mechanical abrasive processing takes place between roll 2 and roll 6 (see Fig. 1), and Barber discloses that the relative speeds of roll 6 and roll 2 are adjusted to stretch the yarn 1 (col. 2, lines 32-33). The yarn is subjected to the mechanical abrasive surface processing (via member 4) while the yarn is subjected to the stretching between rolls 2 and 6, as claimed (col. 2, lines 19-42). The roll 6 is driven at a speed such that the linear velocity of the yarn passing thereover is in the range of 1.01 and 1.10 times the linear velocity of the yarn passing over the feed roll 2, so as to induce stretching (col. 2, lines 36-41). The feed roll speed ratio of 1.05 as seen in Sample 1 in the table (see col. 2) meets the limitation of claim 5.

Regarding claim 9, Barber discloses a device comprising a path for the yarn 1 (see the figure), and at least one surface processing member 4 arranged along the path which carries out an abrasive surface processing of the yarn (col. 2, lines 1-5). Rolls 2 and 6 are stretching elements which impart a stretch to the yarn along a portion of the path as claimed. The mechanical processing element 4 acts on the yarn along the portion of the path in which the yarn is subjected to stretching, as claimed (col. 2, lines 31-41). The device comprises two rollers (2,6) positioned along the path of the yarn around which rollers turns of the yarn are wound (see winding of yarn partially around

rolls 2 and 6 as shown in the figure), as in claim 12. The peripheral velocities of the rollers are different from each other to impart a stretch to the yarn (col. 2, lines 32-41) and the abrasive processing element 4 is positioned between the two rollers (2,6) as in claim 12.

The abrasive surface processing is carried out by abrading medium 4, which is disclosed as a rotatable cylinder with an abrading surface (col. 2, lines 20-22). Such a structure is a "grinder rotating about an axis of rotation" as in claims 6 and 14. The small guide roller (unnumbered but shown in figure) adjacent to and immediately downstream of roll 2 forms a yarn guide as in claim 15. The small guide roller adjacent to and immediately upstream of roll 6 (see unnumbered small roller shown in the figure) forms another yarn guide as in claim 15. The two small rollers form tow yarn guides located upstream and downstream of the grinder 4 along the yarn path, as in claim 15. These yarn guides are staggered with respect to each other to position the yarn in contact with the grinder 4 along a line which is inclined with respect to the axis of rotation of the grinder as in claim 16 (see figure). The yarn contacts the grinder 4 along a curved path (i.e. a curved line) which is inclined with respect to the axis of rotation of the grinder due to its curved path (see the figure) as in claims 7 and 16.

6. Claims 1-6, 9-11, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Hino et al (US 3,946,548).

Hino et al disclose a method and apparatus for treating a multifilament yarn by subjecting the yarn to a friction member. The method includes subjecting the yarn to

mechanical abrasive surface processing via friction member 7. The mechanical abrasive processing takes place between feed rollers 4,4' and take-up rollers 8,8' (see Fig. 1). Hino discloses that "the percent by which the peripheral speed of second feed rollers 4 and 4' exceeds the peripheral speed of take-up rollers 8 and 8' is preferably within the range if -5 percent to 5 percent." (col. 4, lines 62-65). At -5% to under 0%, the speed of rollers 8,8' is greater than the speed of rollers 4,4', which would inherently form a stretching zone between the rollers. In this case, the abrasive processing via member 7 takes place in this area of the yarn subjected to stretching (i.e. between rollers 4,4' and 8,8'). Also see Example 4 (col. 9, line 43), in which the second overfeed (i.e. between roller 4,4' and 8,8') is -2%, which indicates that rollers 8,8' are faster than rollers 4,4', which would produce a stretching of the yarn to the extent claimed.

A step of forming a synthetic yarn comprising a plurality of continuous strands or filaments is performed (col. 2, line 68 through col. 3, line 2, and col. 3, lines 50-52), and the yarn is subjected to the stretching and mechanical abrasive processing to break at least one of the continuous strands or filaments, to form a plurality of discontinuous fibers projecting from the yarn, as in claim 2 (col. 3, lines 63-68). The synthetic yarn is an air-textured yarn as in claim 3 (col. 3, lines 55-59 and col. 4, lines 28-29). Regarding claim 4, the forming of the yarn comprises forming a composite synthetic yarn including a multi-strand thread with continuous strands or filaments forming a core, and a multi-strand effect thread with continuous strands or filaments joined by air-texturing to the core (col. 3, lines 55-59; col. 4, lines 28-29; col. 7, lines 11-15). The abrasive processing via member 7 interrupts the continuity of some of the continuous strands or

filaments as in claim 4. Regarding claim 5, the stretching is formed by the rollers 8,8' being faster than rollers 4,4', and Hino teaches that the speed of rollers 4,4' is as low as -5% of the speed of rollers 8,8' (col. 4, line 65).

Regarding claim 9, Hino discloses a device comprising a path for the yarn (see Fig. 1), and at least one surface processing member 7 arranged along the path which carries out an abrasive surface processing of the yarn (col. 3, lines 63-68 and col. 4, lines 66-68). As noted above, Hino discloses that rollers 8,8' may have a speed greater than that of rollers 4,4' (col. 4, lines 62-65 and col. 9, line 43), thus inherently forming stretching elements which subject the yarn to stretching. The mechanical processing element 7 acts on the yarn along the portion of the path in which the yarn is subjected to stretching (i.e. between rollers 4,4' and 8,8'), as in claim 9. An air-texturing system (3) is located upstream of the mechanical processing element (7), and the continuous strands of the yarn are interrupted by the mechanical processing element (7) as in claim 10 (col. 3, lines 63-68). The air-texturing system comprises an air-texturing nozzle 3 which is fed with at least two continuous yarns each consisting of a plurality of continuous strands or filaments as in claim 11 (col. 4, lines 28-29 and col. 7, lines 2-32).

The abrasive surface processing is carried out by friction member 7, which is disclosed as a roller or rotor having a "sandy surface" (col. 3, lines 63-65 and col. 4, lines 66-68). Such a roller forms a "grinder rotating about an axis of rotation" as in claims 6 and 14.

7. Claims 1-6, 8-11, 14 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Goineau et al (US 2004/0107553).

Goineau et al disclose a method and apparatus for treating a multifilament yarn by subjecting the yarn to a friction member. The method includes subjecting the yarn to mechanical abrasive surface processing via circumferential filament breaker 30 which includes an abrasive coated sleeve element 31 (paragraph 0030). The mechanical abrasive processing takes place between rolls 26 and rolls 40 (see Fig. 1). Goineau discloses that rolls 26 operate to convey the yarn at a rate of about 473 m/min [0029], while rolls 40 operate to feed the yarn at a rate of about 500 m/min [0030]. Since downstream rolls 40 convey the yarn at a faster rate than upstream rolls 26, they produce tension on the yarn and inherently form a stretching zone between the rolls as claimed. The abrasive processing via member 30 takes place in this area of the yarn subjected to stretching (i.e. between rollers 26 and 40; see Fig. 1). Also see Fig. 2, in which the rolls 181 convey the yarn to the breaker 30 at a rate of 582 m/min [0041] and rollers 182 convey the yarn away from the breaker 30 at a rate of 606 m/min [0042], which would produce a stretching of the yarn in the region where the abrasive treatment is performed, to the extent claimed.

A step of forming a synthetic yarn comprising a plurality of continuous strands or filaments is performed (see paragraphs 0025-0026), and the yarn is subjected to the stretching and mechanical abrasive processing to break at least one of the continuous strands or filaments, to form a plurality of discontinuous fibers projecting from the yarn, as in claim 2 (see paragraph 0030). The synthetic yarn is an air-textured yarn as in

claim 3 (see air jet 16 and paragraphs 0025-0026). Regarding claim 4, the forming of the yarn comprises forming a composite synthetic yarn including a multi-strand thread with continuous strands or filaments forming a core, and a multi-strand effect thread with continuous strands or filaments joined by air-texturing to the core [0025-0026]. The abrasive processing via member 30 interrupts the continuity of some of the continuous strands or filaments as in claim 4 [0030]. Regarding claim 5, the stretching is formed by the downstream rollers (40 or 182) being faster than the upstream rollers (26 or 181). In Fig. 1, the speed of downstream rolls 40 is 5.7% greater than the speed of upstream rolls 26 (the respective speeds being 500 m/min and 473 m/min as disclosed in paragraphs 0029-0030), thus subjecting the yarn "to a stretch in the range of from 3% to 6%" as in claim 5. Also, in Fig. 2, the speed of downstream rolls 182 is 4.12% greater than the speed of upstream rolls 181 (the respective speeds being 606 m/min and 582 m/min as disclosed in paragraphs 0041-0042), thus subjecting the yarn "to a stretch in the range of from 3% to 6%" as in claim 5.

Regarding claim 9, Goineau discloses a device comprising a path for the yarn (see Fig. 1 or Fig. 2), and at least one surface processing member 30 arranged along the path which carries out an abrasive surface processing of the yarn [0030]. As noted above, Goineau discloses that rolls 40 or 182 convey the yarn at a speed greater than rolls 26 or 181 [0029-0030 and 0041-0042], thus inherently forming stretching elements which subject the yarn to stretching. The mechanical processing element 30 acts on the yarn along the portion of the path in which the yarn is subjected to stretching (i.e. between rolls 26 and 40 or between rolls 181 and 182), as in claim 9. An air-texturing

system (16) is located upstream of the mechanical processing element (30), and the continuous strands of the yarn are interrupted by the mechanical processing element (30) as in claim 10 [0030]. The air-texturing system comprises an air-texturing nozzle 16 which is fed with at least two continuous yarns each consisting of a plurality of continuous strands or filaments as in claim 11 [0025-0026].

The abrasive surface processing is carried out by circumferential rotating filament breaker 30 including an abrasive coated sleeve element 31 [0030]. The abrasive coated sleeve element 31 forms a "grinder rotating about an axis of rotation" as in claims 6 and 14. Regarding claims 8 and 17, the abrasive coated sleeve member ("grinder") may have a conical shape as in Fig. 7A (see paragraph 0049).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goineau et al (2004/1017553) in view of Chiou et al (5,956,828).

Goineau et al disclose a device as in claim 9, however the mechanical processing element 30 is not disclosed as "associated with a suction system" as in claim 13. Chiou et al disclose a device for producing a yarn including a mechanical abrasive processing element (sanding apparatus 1), which is associated with a suction

system (see tube 16 in communication with a suction device; col. 1, lines 56-58). The suction device removes loose fibers which were formed as a result of the abrading (col. 2, lines 4-5). This keeps the working area clean as is well known in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a tube in communication with a suction system, in association with the mechanical abrasive processing element (30) of Goineau, in order to remove loose fibers which are formed as a result of the abrading, as taught by Chiou.

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hino et al (3,946,548) in view of Erdmannsdorfer et al (4,948,549).

Hino et al disclose a device as in claim 9, however the mechanical processing element 7 is not disclosed as "associated with a suction system" as in claim 13. Erdmannsdorfer et al disclose a device for producing a yarn including a mechanical abrasive processing element (roughening roll 2), which is "associated with" a suction system (5). The suction system 5 removes loose fiber pieces to prevent these pieces from passing into the environment and also to avoid frequent interruption due to the installation becoming clogged with loose fiber pieces (col. 3, lines 45-49). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide such a suction apparatus in association with the abrading roll 7 of Hino et al, for example just downstream of roll 7, in order to remove loose fibers as taught by Erdmannsdorfer et al.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy B. Vanatta whose telephone number is 571-272-4995. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Welch can be reached on 571-272-4996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Amy B Vanatta/
Primary Examiner
Art Unit 3765